US007330447B2

(12) **United States Patent**
Tamura

(10) **Patent No.:** **US 7,330,447 B2**
(45) **Date of Patent:** **Feb. 12, 2008**

(54) **CELL SEARCH METHOD IN CDMA CAPABLE OF CARRYING OUT A CELL SEARCH PROCESSING AT A HIGH SPEED**

(75) Inventor: **Koichi Tamura**, Tokyo (JP)

(73) Assignee: **NEC Corporation**, Tokyo (JP)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 724 days.

(21) Appl. No.: **10/912,447**

(22) Filed: **Aug. 4, 2004**

(65) **Prior Publication Data**

US 2005/0025087 A1   Feb. 3, 2005

Related U.S. Application Data

(62) Division of application No. 09/661,464, filed on Sep. 13, 2000, now Pat. No. 7,027,427.

(30) **Foreign Application Priority Data**

Sep. 14, 1999   (JP)   11-260461

(51) **Int. Cl.**
H04B 7/216 (2006.01)
(52) **U.S. Cl.** **370/320**; 370/335; 370/331; 370/350; 455/502
(58) **Field of Classification Search** 370/342, 370/241, 335, 350, 320; 455/63.1, 115.1, 455/550.1
See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

5,517,677 A   5/1996 Moon

6,044,104	A	*	3/2000	Watanabe	.... 375/142
6,088,382	A		7/2000	Maru	
6,185,244	B1		2/2001	Nystrom et al.	
6,233,454	B1		5/2001	Sato	
6,259,917	B1		7/2001	Elzein	
6,385,180	B1	*	5/2002	Maru	.... 370/335
6,393,006	B1		5/2002	Kajihara	
6,452,912	B1		9/2002	Leem	
6,507,576	B1		1/2003	Suzuki et al.	
6,526,039	B1		2/2003	Dahlman et al.	
6,571,099	B1		5/2003	Kim et al.	
6,597,911	B1		7/2003	Kransmo	
6,633,556	B1		10/2003	Sato	

(Continued)

FOREIGN PATENT DOCUMENTS

JP   9-116526   5/1997

(Continued)

Primary Examiner—Nick Corsaro
Assistant Examiner—Vinncelas Louis
(74) *Attorney, Agent, or Firm*—Foley & Lardner LLP

(57) **ABSTRACT**

On ending communication, a timer is started in order to watch a communication stop time interval. On staring the next communication, a timer value of the timer is watched. If the timer value is less than a communication stop time interval threshold value, a cell search processing is carried out by using a cell search result on previous communication. By monitoring a communication stop time interval and by using a previous cell search result in the manner described above, a cell search circuit has an important function which realizes a high-speed cell search in the same sector (the same cell) on continuous communications and decreasing of a consumed power.

6 Claims, 4 Drawing Sheets